REMARKS

Claims 16-25 were pending when last examined. Claims 16, 18, and 22-25 stand rejected, and Claims 17 and 19-21 are indicated to allowable if rewritten in independent form. Claims 16, 18, and 19 are amended, and Claim 57 is added. No new matter is introduced.

Although there is no patentability issue regarding the language of Claim 16, Claim 16 has been voluntarily amended for clarification to more accurately reflect the invention (the capacitor does not directly change frequency). Claim 16 is not amended for reasons relating to patentability.

Claim Objections

Claims 16 is objected to for reciting "said moving plate" without an antecedent basis. Claim 19 was objected to for improperly reciting "effect." These informalities have been corrected.

Claim Rejections – 35 USC § 112

Claim 18 is objected to under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner stated that "a first sub-plate having an area such that the capacitance of the capacitor is approximately ½ of the total capacitance of the capacitor" is indefinite. Claim 18 has been amended for clarification, and to be consistent with the specification. No new matter is added.

Claim Rejections – 35 USC § 102

Claims 16 and 22-25 were rejected under 35 USC § 102(e) as being anticipated by U.S. Patent No. 5,959,516 to Chang et al ("Chang").

The invention relates to a low-cost digital transceiver that provides high-speed network access. The transceiver includes a digitally controlled capacitor that helps tune the signal frequency. This tuning capacitor may be located between a D/A converter and a microwave circuit, as shown in Figure 7b of the application. The tuning capacitor includes a control plate and a second plate with a gap in between the two plates. The second plate may be divided into two or more sub-plates of

different dimensions to affect the capacitance, and hence the frequency of the signal. The signal is tuned differently depending on which combination of sub-plates are used.

Chang's apparatus is a continuously tunable high-capacitance MEMS capacitor. Unlike the invention, which uses different combinations of sub-plates to tune the signal, Chang uses a master/slave structure including a signal capacitor (12 in Chang's FIGs.) and a control capacitor (14 in Chang's FIGs). The two plates of the control capacitor have interdigitated fingers protruding therefrom, and the interdigitated fingers of each plate that can flex with respect to each other in response to electrostatic force.

Claim 16 is patentable over Chang at least because it recites, "the second plate comprising two or more sub-plates electrically isolated at DC or low frequencies from each other...." The Examiner pointed to Chang's fingers 38 (see, for example, Chang FIG. 1 and FIG. 2) as fulfilling this limitation. However, Chang's Figures clearly show that the fingers 32 are *not* "electrically isolated ... from each other" at any frequency. The fingers 32 protrude from a fixed plate 18, which is made of a conductive material since it is part of the control capacitor 14 (see Chang, col. 4, lines 33-36). In fact, Chang's control capacitor 14 would not work in the invention because the fingers, which are electrically coupled to each other, do not allow selection of certain combinations of plates to properly tune the signal. Thus, Chang does not teach or suggest "sub-plates *electrically isolated ... from each other*," and Claim 16 is patentable over Chang.

Claims 17-25 depend from Claim 16, and are therefore patentable for the same reason as Claim 16. Furthermore, Claims 17 and 19-21 are patentable for reasons independent of Claim 16, as indicated in the Office Action.

New Claim

Claim 57, which is newly added, is patentable over Chang because it depends from Claim 16. Moreover, Claim 57 is patentable for the additional reason that it recites, "a largest plane of at least one of the sub-plates is positioned substantially parallel to a largest plane of the control plate." As shown in Figure 8 of the Application, the largest plane of the control plate (801) is positioned substantially parallel to the largest plane of the sub-plates of the second plate (810). This is also described on page 18, lines 13-17. No new matter is added.

In contrast to Claim 57, the largest plane of one of Chang's sub-plates (i.e., fingers 32) is *not* substantially parallel to the largest plane on the control plate (i.e., the movable plate 16). As shown in Chang's FIG. 2, the largest plane on the fingers 32 are perpendicular to the largest plane on the movable plate 16. Thus, Claim 57 is patentable over Chang.

Conclusion

Based on the above amendments and remarks, it is respectfully submitted that Claims 16-25 and 57 are in condition for allowance. If the Examiner wishes to discuss any aspect of this application, the Examiner is invited to telephone Applicants' undersigned attorney at 650-833-2121. Any fee due for this Amendment may be charged to Deposit Account No. 07-1896.

Respectfully submitted,

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